

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SONDOGARDY POND	Lake Area (ha):	16.51
Town: NORTHFIELD	Maximum depth (m):	4.9
County: Merrimack	Mean depth (m):	2.7
River Basin: Merrimack	Volume (m ³):	443000
Latitude: 43°23'16" N	Relative depth:	1.1
Longitude: 71°36'50" W	Shore configuration:	1.00
Elevation (ft): 397	Areal water load (m/yr):	29.79
Shore length (m): 1300	Flushing rate (yr ⁻¹):	11.10
Watershed area (ha): 1139.6	P retention coeff.:	0.43
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

5 January 1999

23 June 1998

DOM. PHYTOPLANKTON (% TOTAL)	#1	NO WINTER PLANKTON	MELOSIRA 60%
	#2	ANALYZED	DINOBRYON 10%
	#3		RHIZOLENIA 10%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			14.67
DOM. ZOOPLANKTON (% TOTAL)	#1		COLLOTHECA 21%
	#2		GASTROPUS 17%
	#3		KERATELLA 16%
ROTIFERS/LITER			268
MICROCRUSTACEA/LITER			75
ZOOPLANKTON ABUNDANCE (#/L)			351
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			1.5
BOTTOM DISSOLVED OXYGEN (mg/L)		12.0	0.5
BACTERIA (E. coli, #/100 ml)	#1		13
	#2		13
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None
Hypolimnion volume (m³) : None
Anoxic volume (m³) : 10100

CHEMICAL:

Lake: SONDOGARDY POND
Town: NORTHFIELD

	5 January 1999		23 June 1998		
DEPTH (m)	1.0	3.0	1.0		3.0
pH (units)	6.7	6.4	6.6		6.2
A.N.C. (Alkalinity)	10.0	9.3	6.2		5.2
NITRATE NITROGEN	0.07	0.07	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.40	0.40	0.30		0.40
TOTAL PHOSPHORUS	0.009	0.009	0.016		0.023
CONDUCTIVITY (μ mhos/cm)	125.6	126.3	87.4		63.7
APPARENT COLOR (cpu)	22	23	49		70
MAGNESIUM			1.21		
CALCIUM			3.1		
SODIUM			12.0		
POTASSIUM			0.59		
CHLORIDE	27	27	19		12
SULFATE	5	5	4		3
TN : TP	52	52	19		17
CALCITE SATURATION INDEX			3.4		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

D.O. S.D. PLANT CHL TOTAL CLASS

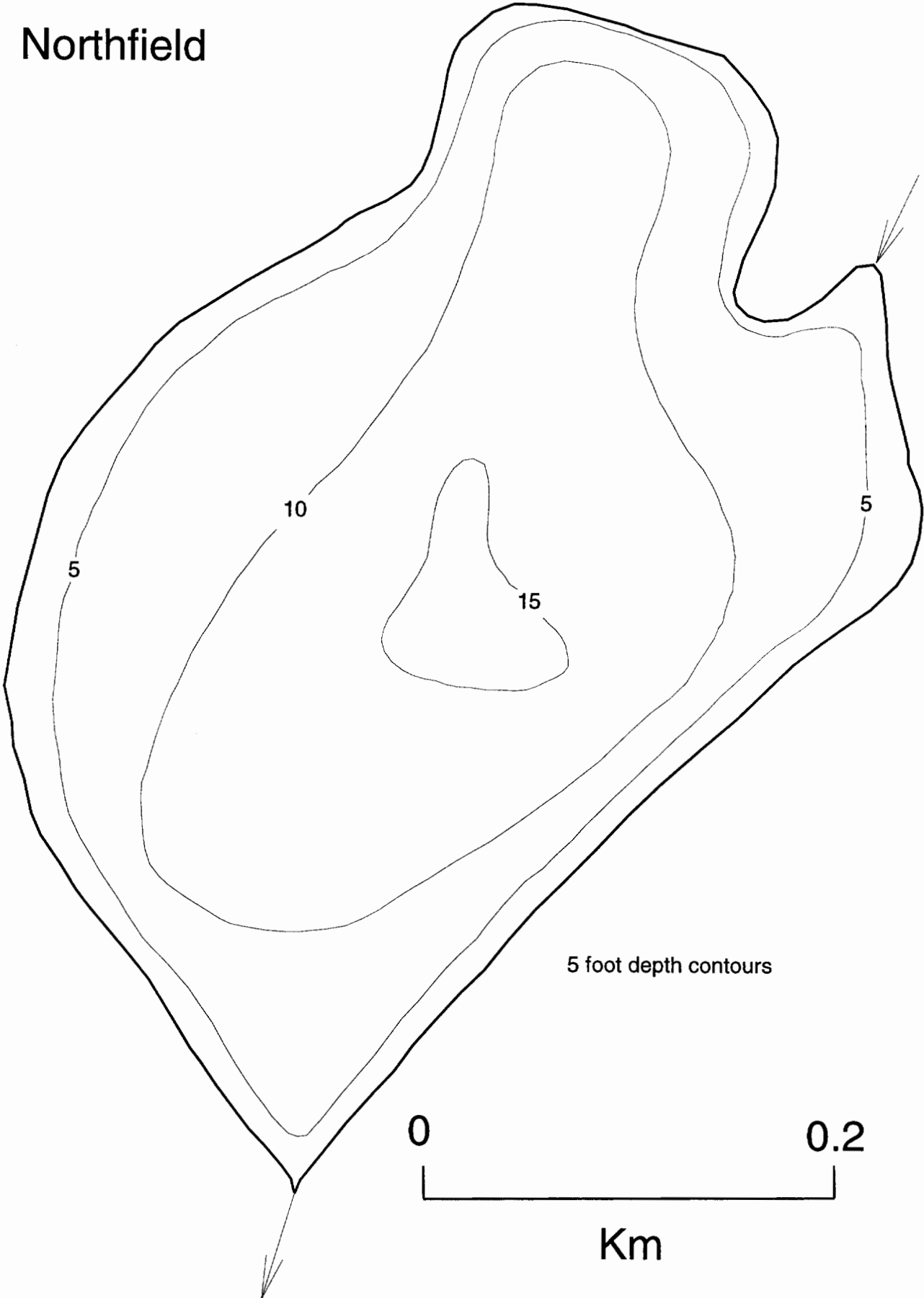
**	4	3	3	10	Eutro.
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COMMENTS:

1. aka Northfield Pond.
2. This pond was previously surveyed and classified in 1982. It was rated mesotrophic in 1982 and eutrophic in 1998 (one less trophic point in 1998 would have resulted in a mesotrophic rating). The major change in trophic condition was in chlorophyll which was twice as high in 1998 (6.6 vs 14.7 mg/m³). More frequent sampling (e.g., volunteer monitoring – the pond joined VLAP in 1998 and chl was 6 to 7 mg/m³ in 1998 and 1999) is needed to determine if this change is a trend or within the natural seasonal or yearly variation (the VLAP data suggests it's normal variation).
3. No boat launch site; we used the town beach to put in the boat.

Sondogardy Pond

Northfield

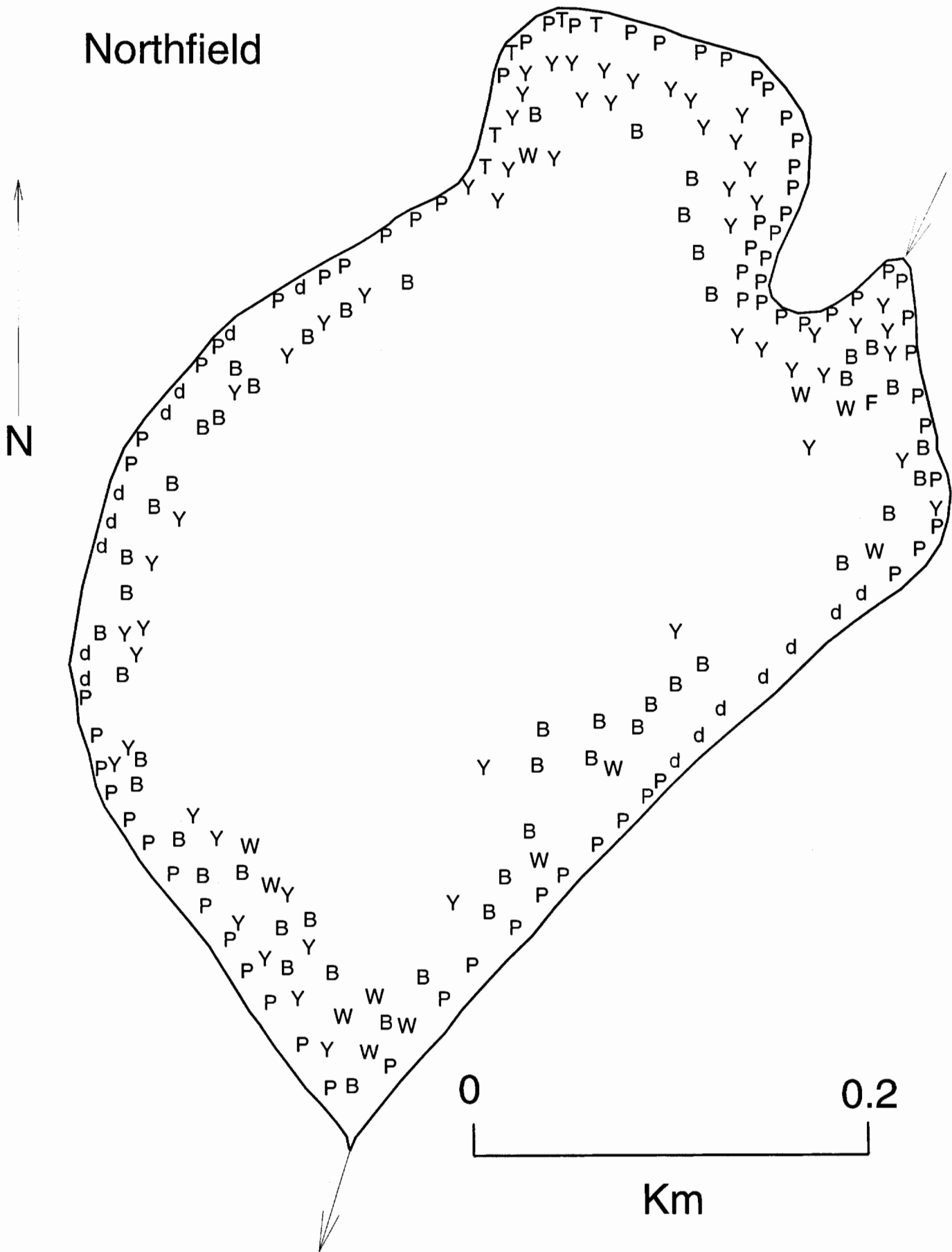


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COMMENTS :

*Dissolved oxygen values are in mg/L

Sondogardy Pond



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